



Soil and Water Conservation Merit Badge Workbook

SCOUTMASTER BUCKY

Scouts participating in a Scoutmaster Bucky merit badge opportunity, whether online or in person, should consider using the Soil and Water Conservation merit badge pamphlet for discovery and knowledge, along with the class preparation pages for clarifications, insights, and expectations.

<https://scoutmasterbucky.com/merit-badges/soil-and-water-conservation/soil-and-water-conservation-pamphlet.pdf>

<https://scoutmasterbucky.com/merit-badges/soil-and-water-conservation/soil-and-water-conservation-cpp.pdf>

REQUIREMENT 7f REQUIRES COUNSELOR APPROVAL.

REQUIREMENT 1a: Tell what soil is.

Notes:

REQUIREMENT 1a: Tell how soil is formed.

Notes:

REQUIREMENT 1b: Describe three kinds of soil. Tell how they are different.

SOIL TYPE #1:

Notes:



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SOIL TYPE #2:

Notes:

SOIL TYPE #3:

Notes:

REQUIREMENT 1c: Name the three main plant nutrients in fertile soil. Tell how they can be put back when used up.

FERTILE SOIL PLANT NUTRIENT #1:

Notes:



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FERTILE SOIL PLANT NUTRIENT #2:

Notes:

FERTILE SOIL PLANT NUTRIENT #3:

Notes:

REQUIREMENT 2a: Define soil erosion.

Notes:



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REQUIREMENT 2b: Tell why soil erosion is important and how it affects you.

Notes:

REQUIREMENT 2b: Tell how soil erosion affects you.

Notes:

REQUIREMENT 2c: Name three kinds of soil erosion. Describe each.

SOIL EROSION #1:

Name:

Notes:



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SOIL EROSION #2:

Name:

Notes:

SOIL EROSION #3:

Name:

Notes:



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REQUIREMENT 2d: Take pictures of or draw two kinds of soil erosion.

Notes 1:

Notes 2:



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REQUIREMENT 3a: Tell what is meant by conservation practices.

Notes:

REQUIREMENT 3b: Describe the effect of three kinds of erosion-control practices.

EROSION-CONTROL PRACTICE #1:

Name:

Notes:



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EROSION-CONTROL PRACTICE #2:

Name:

Notes:

EROSION-CONTROL PRACTICE #3:

Name:

Notes:



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REQUIREMENT 3c: Take pictures of or draw three kinds of erosion-control practices.

Notes 1:

Notes 2:

Notes 3:



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REQUIREMENT 4a: Explain what a watershed is.

Notes:

REQUIREMENT 4b: Outline the smallest watershed that you can find on a contour map.

This requirement must be reviewed with your merit badge counselor.
BE PREPARED!

REQUIREMENT 4c: Outline, as far as the map will allow, the next larger watershed that also has the smallest one in it.

This requirement must be reviewed with your merit badge counselor.
BE PREPARED!

REQUIREMENT 4d: Explain what a river basin is.

Notes:



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REQUIREMENT 4d: Tell why all people living in a river basin should be concerned about land and water use in the basin.

Notes:

REQUIREMENT 4e: Explain what an aquifer is.

Notes:

REQUIREMENT 4e: Explain why an aquifer can be important to communities.

Notes:



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REQUIREMENT 5a: Make a drawing to show the hydrologic cycle.



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REQUIREMENT 5b: Demonstrate at least two of the following actions of water in relation to soil: percolation, capillary action, precipitation, evaporation, transpiration.

This requirement must be reviewed with your merit badge counselor.

BE PREPARED!

Notes:



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REQUIREMENT 5c: Explain how removal of vegetation will affect the way water runs off a watershed.

Notes:

REQUIREMENT 5d: Tell how uses of forest, range, and farmland affect usable water supply.

Forest:

Range:

Farmland:



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REQUIREMENT 5e: Explain how industrial use affects water supply.

Notes:

REQUIREMENT 6a: Tell what is meant by "water pollution.".

Notes:



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REQUIREMENT 6b: Describe common sources of water pollution and explain the effects of each.

Notes:



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REQUIREMENT 6c: Explain the terms: primary water treatment, secondary waste treatment, and biochemical oxygen demand.

Primary Water Treatment:

Secondary Water Treatment:

Biochemical Oxygen Demand:



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REQUIREMENT 6d: Make a drawing showing the principles of complete waste treatment.



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DO TWO OF THE FOLLOWING (7A, 7B, 7C, 7D, 7E, or 7F) FOR REQUIREMENT 7

REQUIREMENT 7a: Make a trip to TWO of the following places. Write a report of more than 500 words about the soil and water and energy conservation practices you saw.

1. An agricultural experiment
2. A managed forest or woodlot, range, or pasture
3. A wildlife refuge or a fish or game management area
4. A conservation-managed farm or ranch
5. A managed watershed
6. A waste-treatment plant
7. A public drinking water treatment plant
8. An industry water use installation
9. A desalinization plant.

PLACE #1:

Name and Location:

Date and Location Visited:

Notes:



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PLACE #2:
Name and Location:
Date and Location Visited:
Notes:



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REQUIREMENT 7b: Plant 100 trees, bushes, and/or vines for a good purpose.

If choosing this requirement option, you will need to share proof with your counselor

This requirement must be reviewed with your merit badge counselor.

BE PREPARED!

Notes:

REQUIREMENT 7c: Seed an area of at least one-fifth acre for some worthwhile conservation purposes, using suitable grasses or legumes alone or in a mixture.

If choosing this requirement option, you will need to share proof with your counselor

This requirement must be reviewed with your merit badge counselor.

BE PREPARED!

Notes:



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REQUIREMENT 7d: Study a soil survey report. Describe the things in it. Using tracing paper and a pen, trace over any of the soil maps, and outline an area with three or more different kinds of soil. List each kind of soil by full name and map symbol.

If choosing this requirement option, you will need to share proof with your counselor

This requirement must be reviewed with your merit badge counselor.

BE PREPARED!

Notes:

REQUIREMENT 7e: Make a list of places in your neighborhood, camps, school ground, or park that have erosion, sedimentation, or pollution problems. Describe how these could be corrected through individual or group action.

Notes:



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REQUIREMENT 7f: Carry out any other soil and water conservation project approved by your counselor.

COUNSELOR APPROVAL: IS REQUIRED.

Counselor's Name

Phone or Email

Counselor's Signature

Date

☐

approved

Notes: